

458  
188.5  
235  
4120  
4200

RT Vm 13 00.1 +5 27 +13 20

+0019<sup>c</sup> -020 LB

0 -2

+0019 -022

+028 -022

25  
25  
10

+038 -020

m R  
7.75 = 355

824 509 -243

562 775 -286

643 373 927

-1094 -0587

+0746 -0808

-0057 -0389

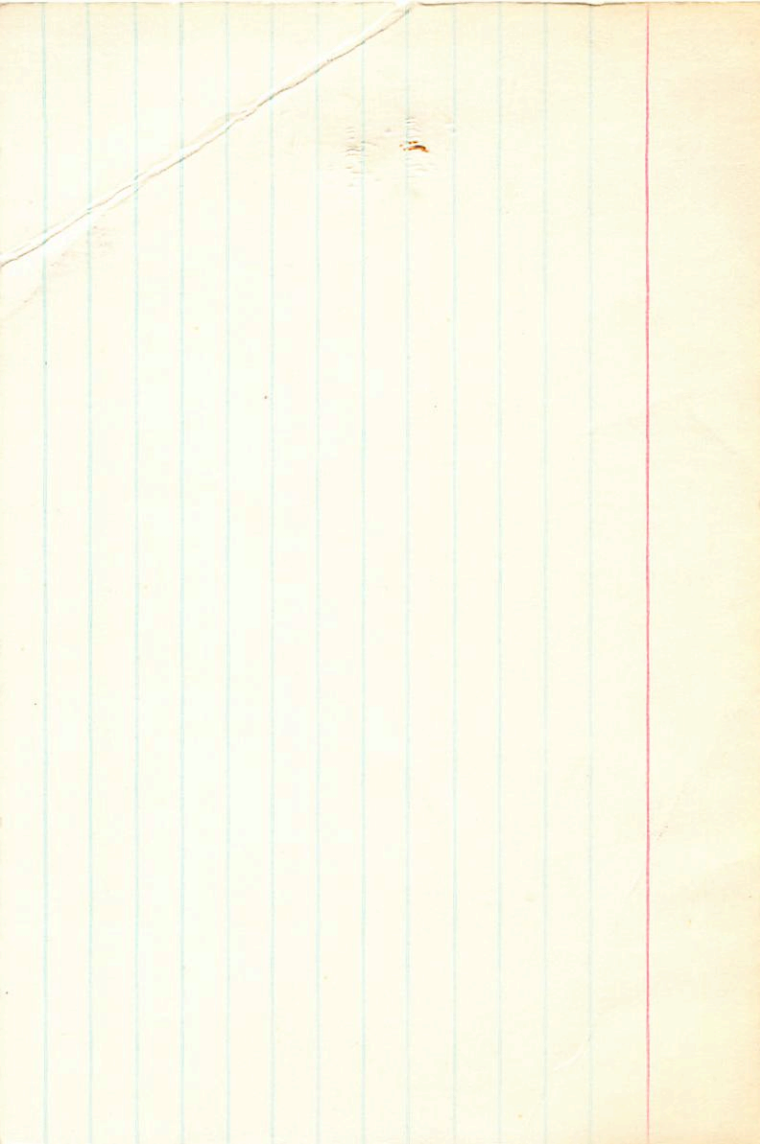
-1638 -57.9 -110 -3.1

+0062 -2.2 -5.9 -3.7

-0476 -15.8 -3.7 +12.1

250 ✓

46



+26 -B  
-4 -12

RT Vin 13 00.1 15 27+22 -25 4 → 00

~~+022~~ -2.2 <sup>PAV</sup>

+13 ←

c b LB  
+0019 -020 F124

LB  
+028c -22.6 →

+0284

+028 -016

47 1.88

432

1.91

6

E=+02

RT Vin 7.4 +1.55 +0.85 -5.7 -81 -7 -9 +28 +130 155 ±  
4.55 +1.92 8.4 -16 -1 -4 -22 118 +680

0.000\*

13.000\*

0.100\*

5.000\*

27.000\*

0.030\*

-0.016\*

7.900\*

380.189

13.000

-0.156

-0.244

-62.476

0.021

-0.287

4.336

-0.034

0.926

-1.060

44

44

1867

1868

1869

1870

1871

1872

1873

1874

1875

1876

0.000\*

13.000\*

0.100\*

5.000\*

27.000\*

0.028\*

-0.016\*

7.900\*

380.189

13.000

-0.148

-0.244

-59.501

0.016



high  $\frac{1}{2}$

$$P = 8.6$$

$$\frac{6.13}{-0.2} = 5.96$$

$$\frac{0.2}{1} = 0.2$$

7/14 6.86  
0.87 0.4

3.7 - 0.8  
0.02 0.00  
0.00 0.00

0.00  
0.30  
0.30 - 1971  
0.30 - 1986

20.00  
18.00  
1.50  
1.50  
1.50

Handwritten signature

20.00  
1.50  
1.50  
1.50

0.24  
0.52 1.64

0.00 - 0.04  
0.00 - 0.04  
0.00 - 0.04

5.97  
0.00  
0.00

3.30  
0.00  
0.00  
0.00

18.18  
1.18  
1.18  
1.18

7.5  
6.85  
10.8  
4.4  
1.4

0.32  
0.32  
0.32

0.3  
0.3  
0.3

R 8.05  
R 1.48

13

0.40

113291  
162911



45





R.A. : 13.000  
DEC. : -27.250  
PM. R.A. : -45.000  
PM. DEC. : 2.000  
DISTANCE : 2.000  
MODULUS : 234  
RAD. VEL. : -8.000

p1 (U) : -0.832  
p2 (U) : 0.297  
p3 (U) : -0.480  
pU : 129.388  
U : 41.490

p1 (V) : 0.283  
p2 (V) : 0.497  
p3 (V) : -0.690  
pU : -101.254  
V : -18.221

p1 (W) : -0.043  
p2 (W) : 0.812  
p3 (W) : 0.278  
pW : 12.004  
W : -1.283

*M.P.*

R.A. : 13.000  
DEC. : -27.250  
PM. R.A. : -45.000  
PM. DEC. : 2.000  
DISTANCE : 6.850  
MODULUS : 234  
RAD. VEL. : -8.600

q1 (U) : -0.826  
q2 (U) : 0.297  
q3 (U) : -0.480  
dU : 159.386  
U : 41.490

q1 (V) : 0.563  
q2 (V) : 0.497  
q3 (V) : -0.660  
dV : -101.954  
V : -18.221

45  
q1 (W) : -0.043  
q2 (W) : 0.815  
q3 (W) : 0.578  
dW : 15.804  
W : -1.263

113365 13 00.6 +22 5-4 6.9 Aom -1166

-12.4

17699

7777

122050

26  
-0028 -007 N30

-0028 ± 4.7 -023 ± 6.0 Gc → N26

-0028 -015 P146

-039 1019.9 1050.

235.9 / 5820

-1050

6.97 .205

1.3 / 3.67

-826 559 -079

562 826 -040

-043 077 996

+1527 -0397

-1039 -0587

+6079 -6055

1130 +15.2 -1.0

-1626 -22.0 +0.5

+6024 +0.3 -12.5

+16.2

-21.5

-12.2

-027=60

1028=47

33304 10.1 -1026 -1021 21.46 13.4

-1026 021

$\frac{109}{413}$

$\frac{94}{2245}$

33259 16.25 21.57

$\frac{-24}{21.228}$

$\frac{11}{215}$

$\frac{21.228}{8}$

33.239

2045 21.148

$\frac{14}{253}$

$\frac{-27}{21.22}$

-1026 -021

-10259 -019

-035

113826 13 00.8 +84 32 9.2 26.4-30.51<sup>3W</sup>

+850214

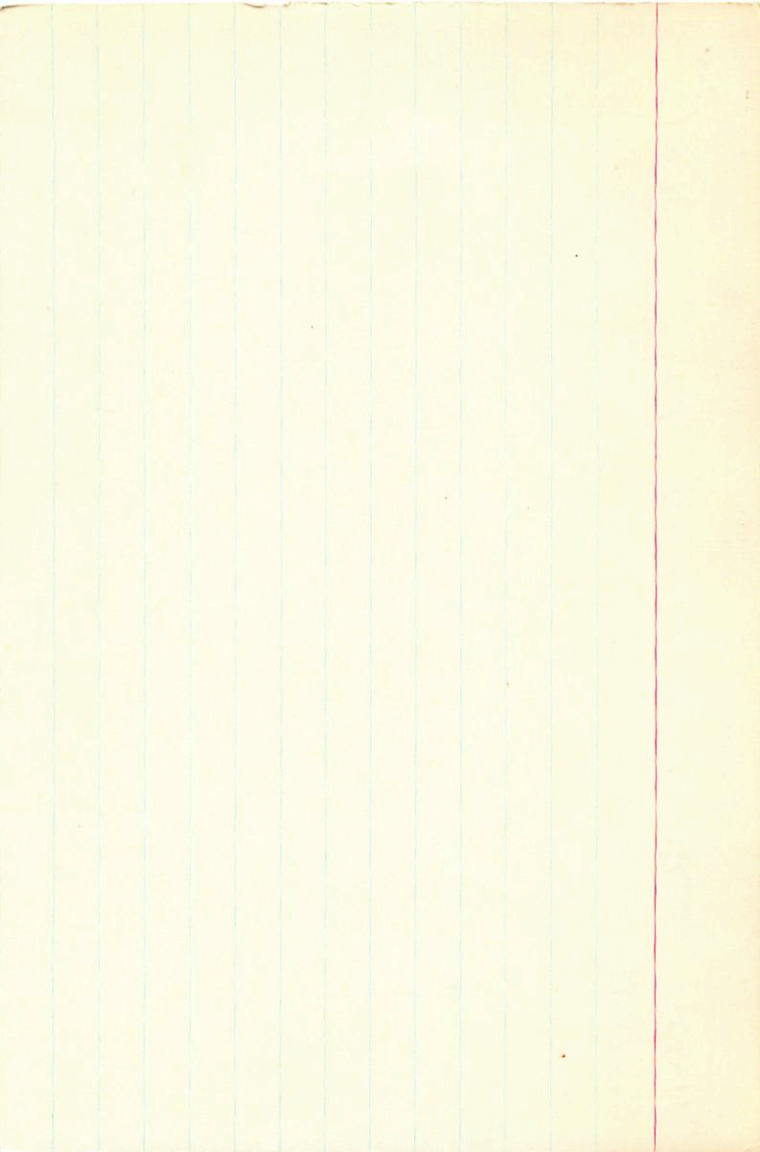
7781

0 -139 GP

6W -136 GP(G)

9.24 +0.60 -

~~224~~  
6.04





+43<sup>0</sup>2293

2.53 + 25 + "  
13 <sup>20</sup>00.0 + 42 35

-5-0

10.6

113299

17058746A

AG12-1 - 0008 - 048  
- 0006

113537

13 02.2

-46 51

-0073

F5III

-145% C<sub>2</sub>(4)

-0035±9.5

-037±6.7

17786

6.46 +40

161  
168

13.600 1902.1

-46 50

55.01

1895.7

168  
778

0054-044

Step 2.01  
19653.00

47.393  
26.116

494  
28

390

50.92

1927.80

13.514  
12.16

494  
28

390

50.92

1927.80

13.496  
160

494  
28

390

50.92

1927.80

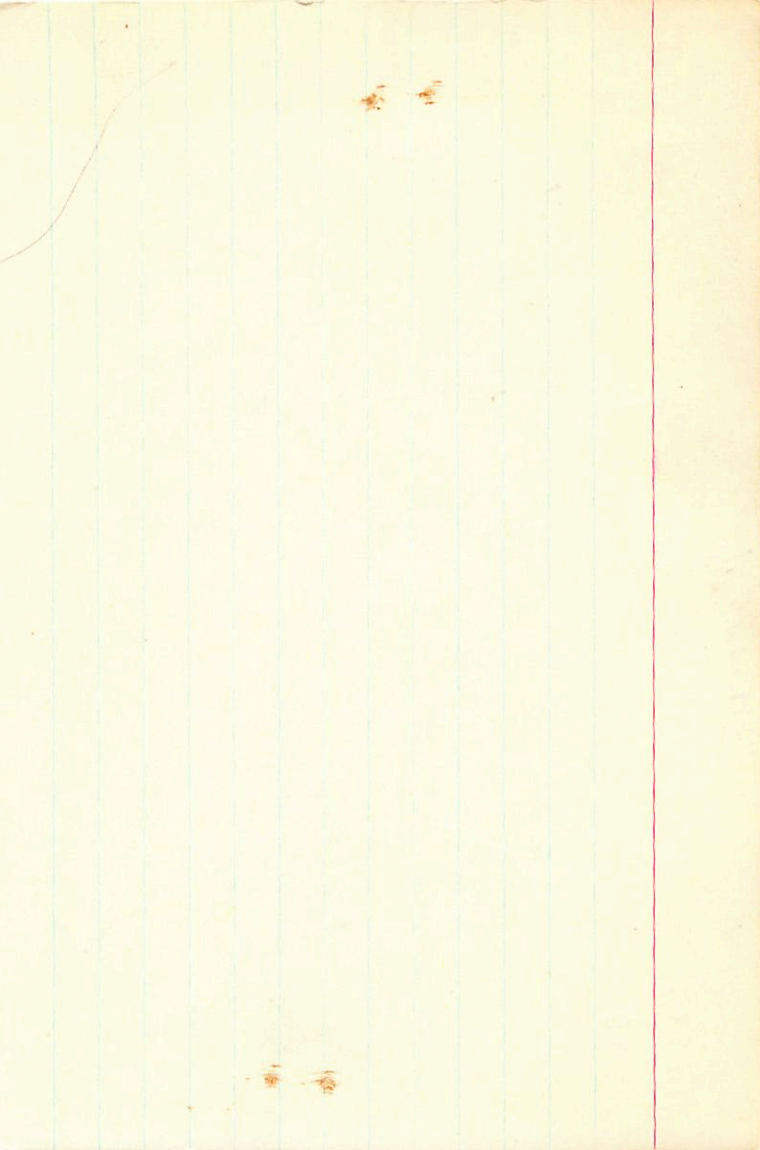
8212  
4111  
454

994  
5497

1.97

1554.92

55.32  
-39  
55.71



A069775

13847

17758

7795

-0015 ± 2.5 +024 ± 2.1

12 03.6 +45

32 5.7 912 -19.66

40

-0016 F017 N30

-0015 ± 2.5 +027 ± 2.1 60 → N30

32.474 1902.0 +45

32 7.76 1901.2

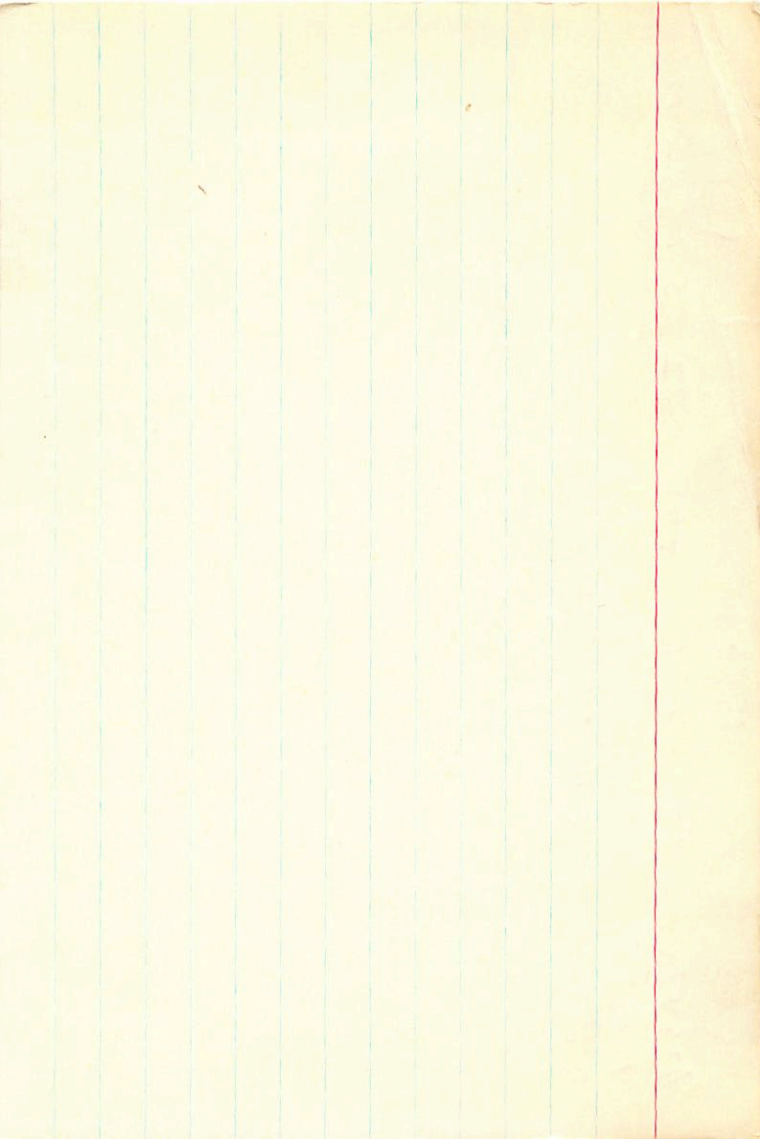
072

1346

-1.06

6.60

1888②



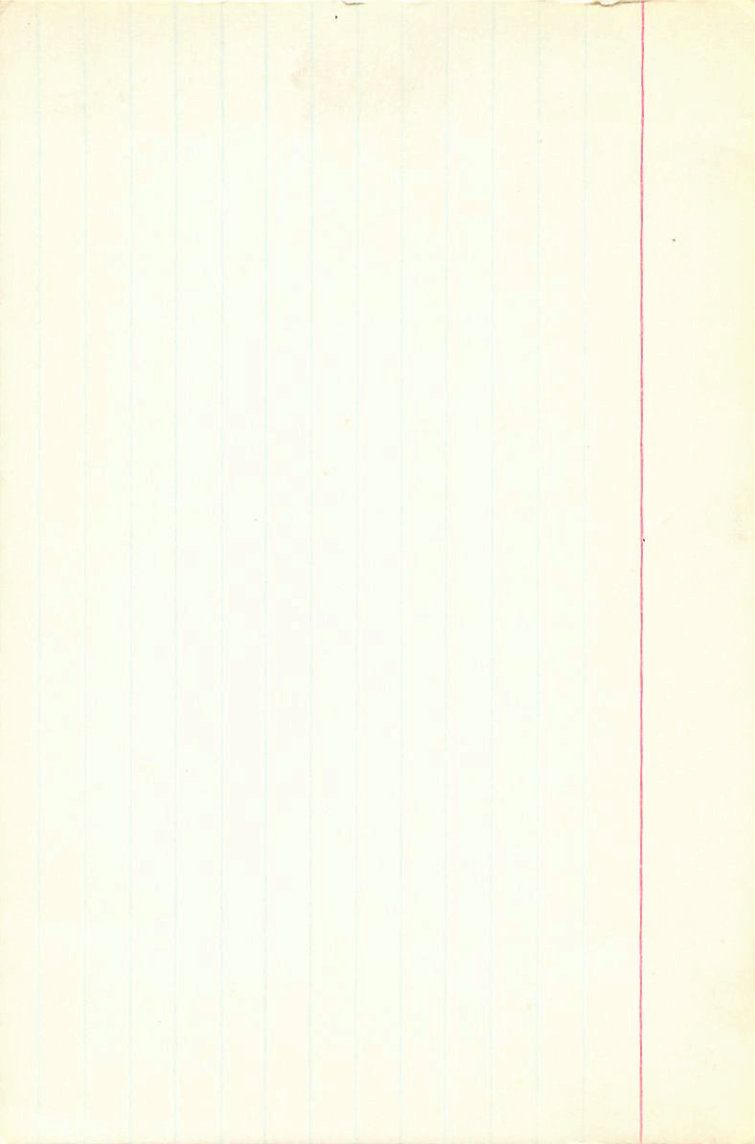
<sup>777</sup>  
<sup>385</sup>  
 113801      B 03.7 81 -19 47      -162

-1503634  
 8.52 + 1.17 + 1.05      JM  
 8.15 + 0.38  
 +24430

<sup>44</sup>  
 809 36  
 $\frac{34}{13}$   
 $\frac{7.51}{1.2}$   
 $\frac{7.51}{1.2}$   
 -0012 -021      Section  
 +1 +3  
 $\frac{-0011}{-016}$       -015

-819	349	-455	+0621	-0298	+0323	+113	+772
570	581	-581	-0432	-0496	-0928	-110	+9.3
-062	735	675	+0047	-0627	-0580		-10.8





8.71 + 22 + 07  
22

-10.0

+4202372

13

03.8

+41

49

8.2

113864

16.2<sup>③</sup>

14.8<sup>④</sup>

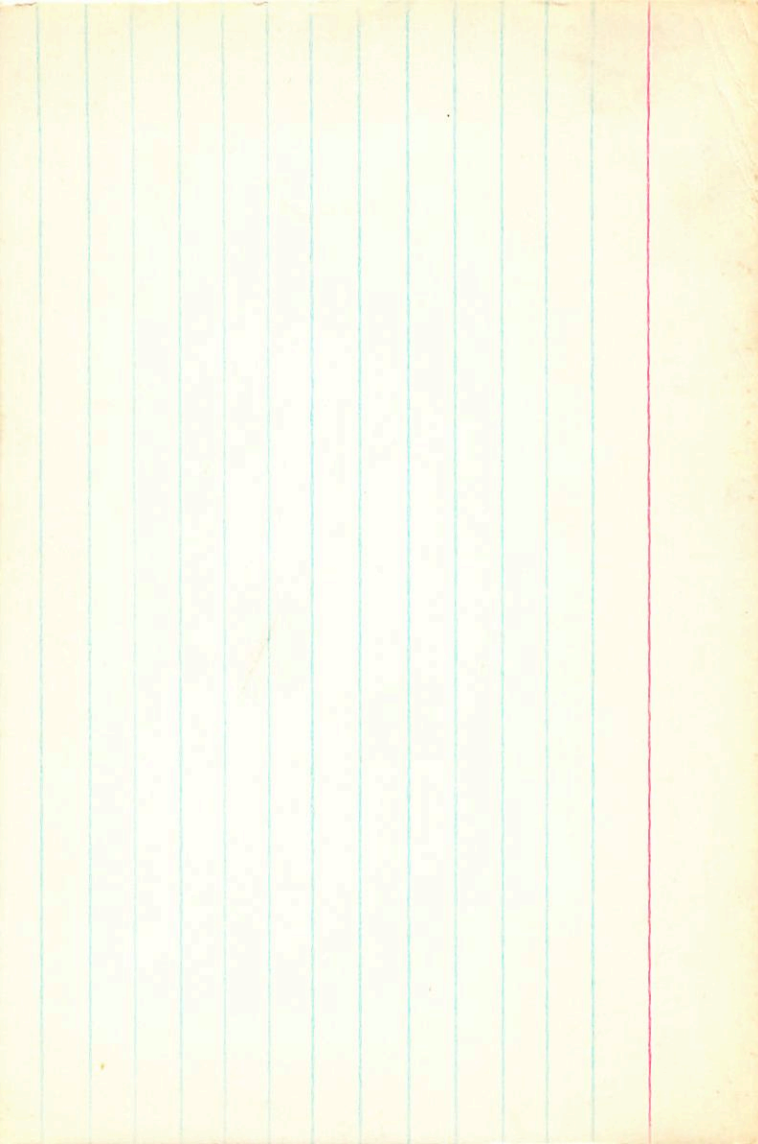
A-G-12-1

+0020 -0306<sub>35</sub>

+0016 -040

+0018 -035

+0.020 +4  
-----  
0.031



-0028 ± 2.7  
+05

-0031

113817 13 03.8 -14 39 7.2 ag 68 -12.2 d

17765  
7794

48.408 1501.5 -14 38 56.36 18990

$\frac{136}{1544}$

$\frac{-0.56}{56.92}$

29.254

19.150

$\frac{48.408}{439}$

54.61 1433.16

$\frac{2.60}{5721}$

+36

$\frac{73.20}{36.6}$

(85.1)

$\frac{436}{-108}$

(37.6)

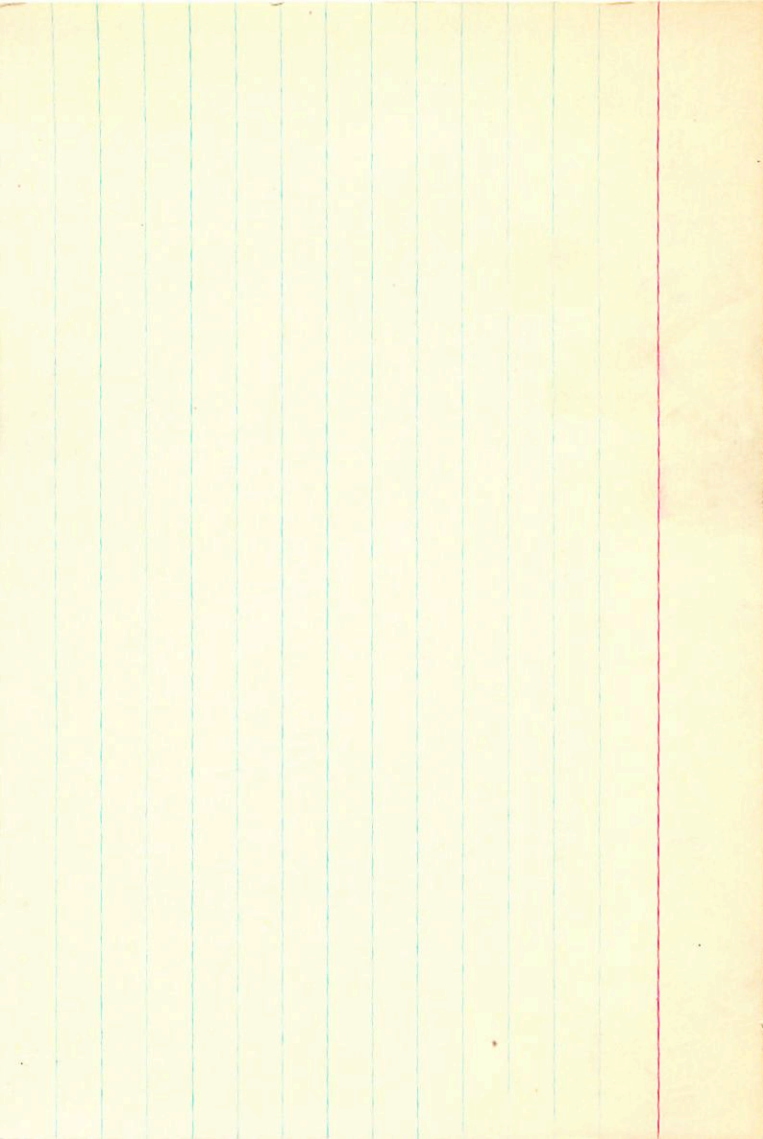
56.1 1440.04

$\frac{56.70}{+9}$

$\frac{56.61}{56.73}$

+ 0.19

$\frac{434}{434}$



3960  
113848

12 03.9 f21 25 6.0 d.c.1 f0.6 b

17767

-26 (17)

7799

93 |  
-0052 -049 M30

4446)

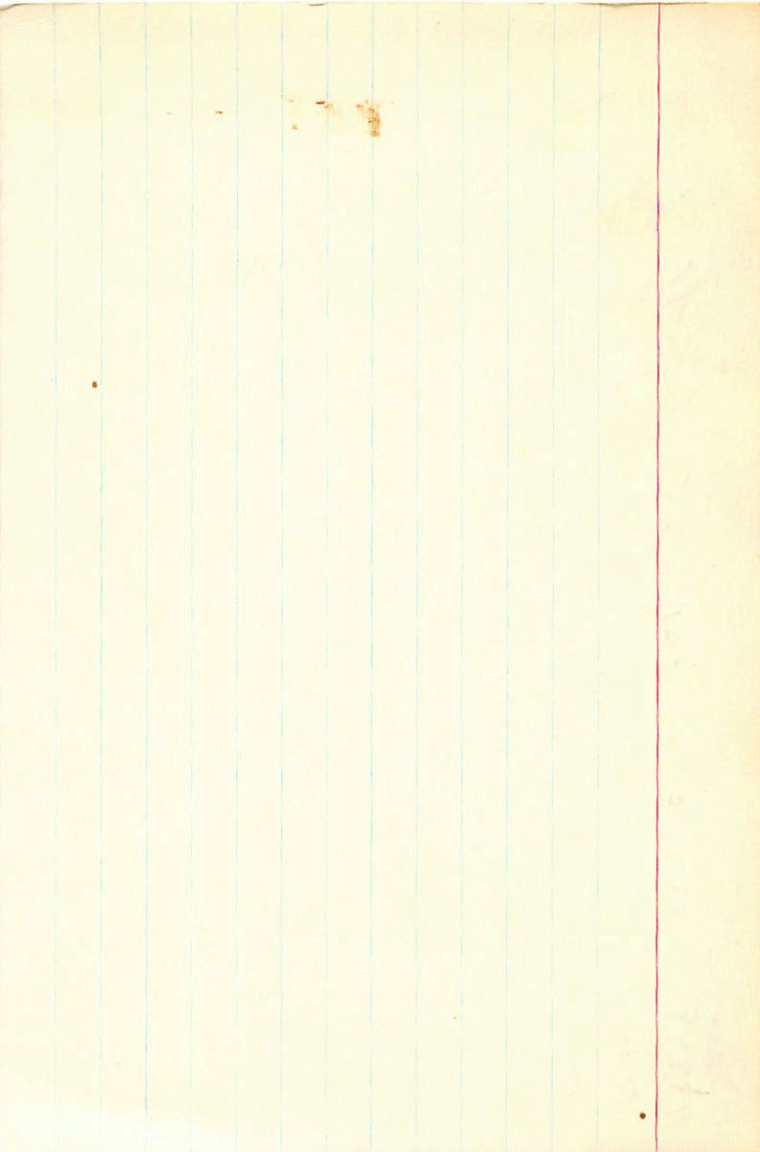
-0056 ± 23 -038 ± 2.0 62 → M30

-0054 -044

-075

274 144





113994

13 04.8

$$-0067 \pm 3.9 \quad -123 \pm 2.8$$

$$-0063 \quad -112$$

1787 1783

+00 51 ( 7.2 dFB -92.28-883

17786

711 ( 7.6 dGO -86.56-90.0

7807

7.05 +0.49 -0.05 F5V ✓ -89.4 -89.1

ADS8786

17786

46.469 1895.3 +0 51 10.60 189.8

366

7.16

835

17.76

$\Delta m = 0.47$

46.570

12.92 1933.9

23

-11

593

13.03

242

-66 -114

473

-65 -117

89.1 (1)  
90.4 (1)

17785

46.436

1501.6

+ 0 5-1

18.88

1505.1

-0077 66.4  
- 56

-10848.7  
-120

$\frac{373}{809}$

$\frac{485}{23.73}$

46.599

20.40

1934.8

$\frac{23}{622}$

$\frac{11}{20.29}$

416m

113996

17787

7809

13 04.8

+27 54

4.9

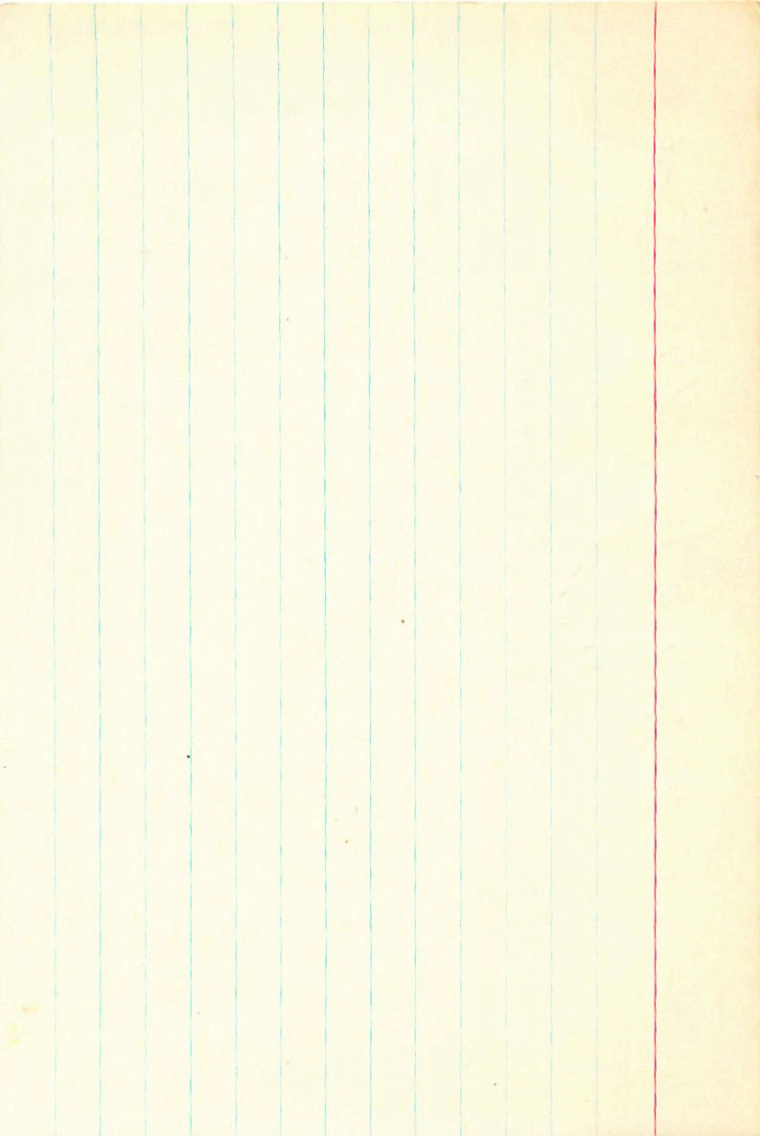
gms -16.4g

→ 3.6 (H)

→ 15.9 (90)

+0026<sup>31</sup> -078 N30

+0023 ± 1.7 -075 ± 1.5 6L -0030



114060  
~~17793~~

13 05.3 +24 14 d65 -4.68

+24° 2539/40

d65  $\frac{0.08}{-2.38}$

210  
1160

-221 +.151 GC

-263 +140 YA

-273 +140 YB

-269 +144

-251-560 412 511 -269+144 -2.3 059-1 250  
-076 017 258-057 -090 1.302 -2.1 +2 +1 03

-1+14+5

$\boxed{+13-13-2}$

-1+38+7

635

496A

13 05.3 -10 28 9K3 -9.1a

HR495

5.19 + 1.14 + 1.12 R2 III

+015-0136C

W7812

+017-015Z

+016-014



~~-281-960 -182 983 +014-014 -9.1 003 +1.7 -066~~

004 001-015 003 033 -066 -8.9 +8.5 +2.5 008

+12.6 -5.8 -6.7

+14.0 -8.5 -9.3

-11 +4 -15

006

+16.7 -14 -14.7

~~-17.8~~ +3.4 -14.1

004

+15.0 -10.7 -11.5

~~-13.5~~ +3.5 -12.7

~~-11 +4~~

005

7C

113283 13 05.7 -87 18 6512-B -3.4

F0719

7.12 +71 (1.76)

6617801

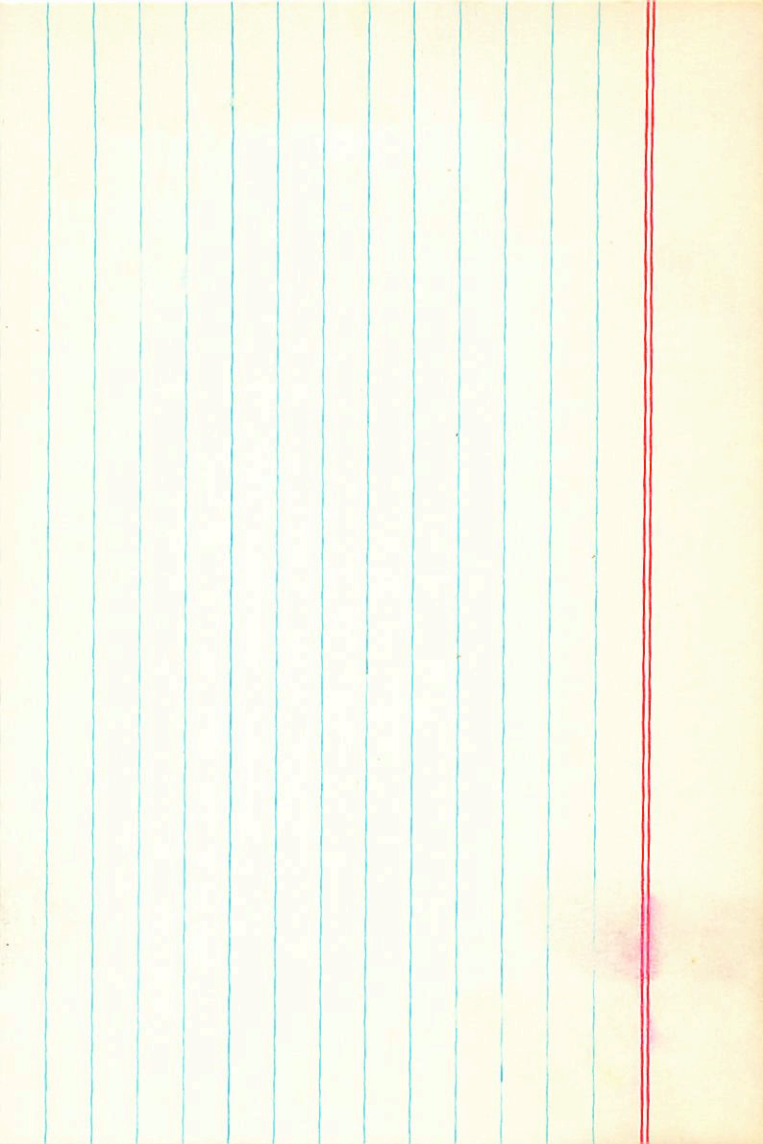
-3024 ± 3.7 -147 ± 3.7

39.843 18957

35.201895.0

7.13 416 252 279 (1)  
419 228

P<sub>0</sub>305



430° 2371

114172

13 06.2

+29

39 8.6

~~460~~ -3828

C-1688

7819

-349 (2)

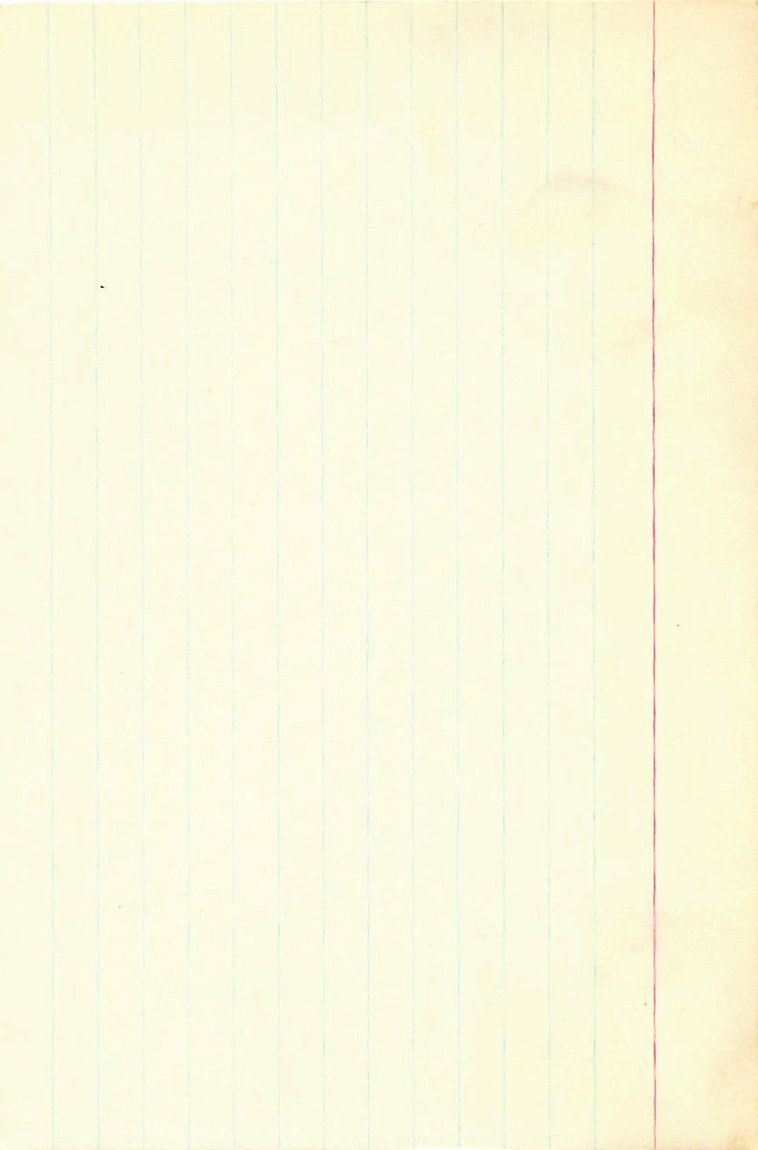
364 (2)

+208±5

-078±5 Rndy

606

D  
4u



HR4960

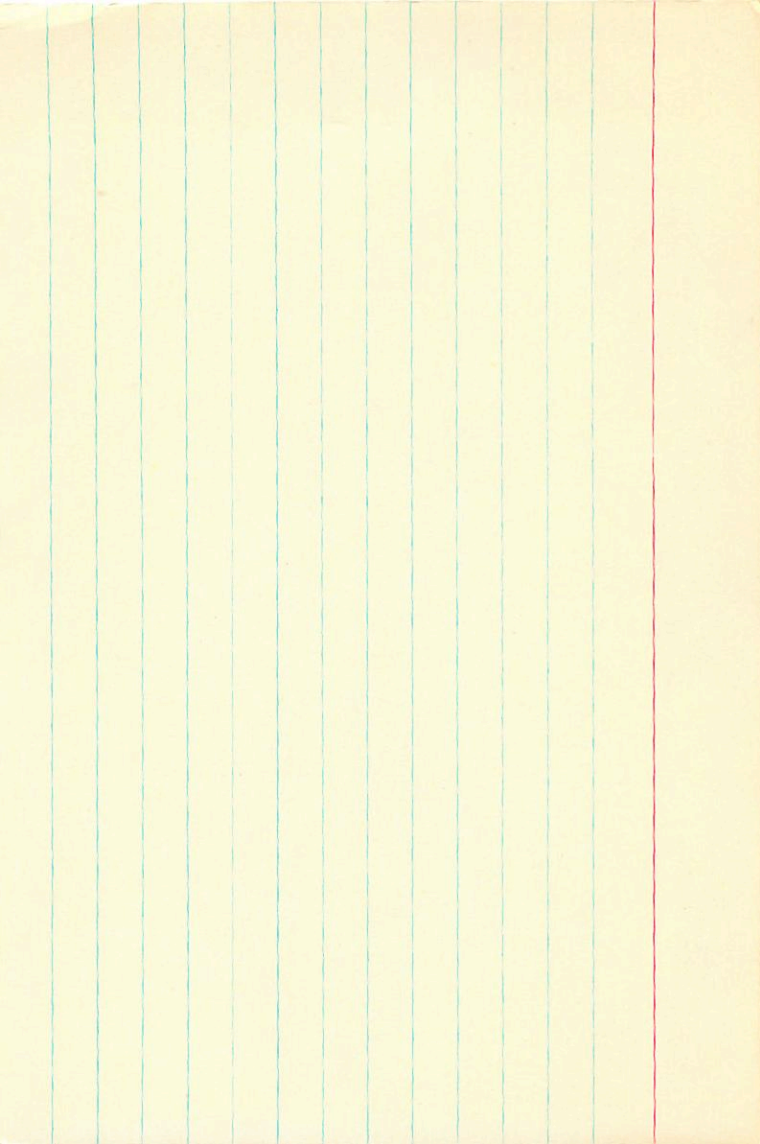
13 06.7

+10

17

gko -0.46

+015-009G-C



+0010 ± 5.3 -009 ± 4.5  
+0021  
-002

114256 13 06.7 +10 17 6.0 g 110 -0.48

17817

7824 42.094 1912.3 +10 17 18.81 1912.3

~~038~~  
056

43  
19.24

42.088  
19  
107

19.37 1934.8  
-10  
19.27

42.104  
+7  
111

109  
+053  
25.3

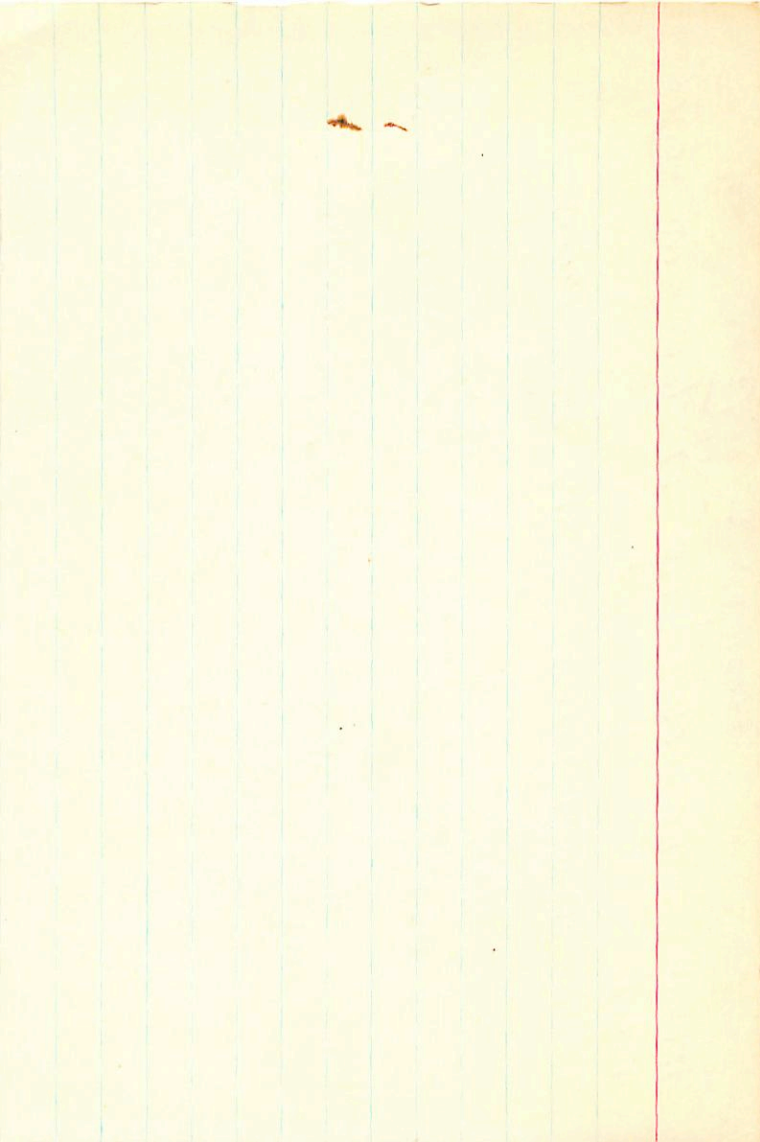
19.08 1940.30  
+4  
19.14

75.10  
37.6

19.20  
-104

25.3





!

15/4

45

11-12

13

908 71 675

90943

① 13-

② 22-

15/4

13 06.8 + 2866

24.2373

46.

12.400	:	RAD. VEL.
79	:	MODULUS
4.500	:	DISTANCE
-62.000	:	RM. DEC.
-13.000	:	FM. R.A.
38.950	:	DEC.
13.100	:	R.A.

-0.818	:	d1 (U)
0.272	:	d2 (U)
0.041	:	d3 (U)
-138.983	:	QU
-9.302	:	U

0.272	:	d1 (V)
0.790	:	d2 (V)
0.200	:	d3 (V)
-521.220	:	QU
-5.988	:	V

-0.800	:	d1 (M)
-0.199	:	d2 (M)
0.978	:	d3 (M)
01.243	:	QU
19.947	:	M

*Me*

R.A. : 13.100  
DEC. : 38.950  
PM. R.A. : -13.000  
PM. DEC. : -62.000  
DISTANCE : 4.500  
MODULUS : 79  
RAD. VEL. : 15.400

q1 (U) : -0.818  
q2 (U) : 0.572  
q3 (U) : 0.061  
dU : -128.983  
U : -9.302

q1 (V) : 0.572  
q2 (V) : 0.796  
q3 (V) : 0.200  
dV : -261.225  
V : -17.668

q1 (W) : -0.066  
q2 (W) : -0.199  
q3 (W) : 0.978  
dW : 61.543  
W : 19.947

*Mo*

4962 13 073 +17 06 6.05 9126

$$\begin{array}{r} -067 -019 0-0 \\ -1 \\ \hline -068 \end{array}$$

$$\begin{array}{r} + \\ \hline -015 \end{array}$$

$$\begin{array}{r} -1710 \\ \hline \end{array}$$

47



AK



4962.000\*

13.000\*

7.300\*

17.000\*

6.000\*

-0.068\*

-0.015\*

6.500\*

199.526

-17.000

0.224

-0.161

47.331

-0.243

-0.107

-46.591

0.010

0.981

-14.675

YA

50 Uni

114287

13

07.1

-10

04

6.2

915

-7.36

-0007 ± 2.1  
-0008 -023

17822

7827

8040

1898.2

-10

3

47.45

1896.3

$\frac{036}{076}$

$\frac{+1.02}{46.43}$

$\frac{49.528}{18.478}$

47.10

$\frac{8.0033}{0.29}$

$\frac{-0.40}{47.70}$

$\frac{046}{030}$

$\frac{43}{47.2}$

35.6

$\frac{8.044}{0.52}$

47.43

1939.46

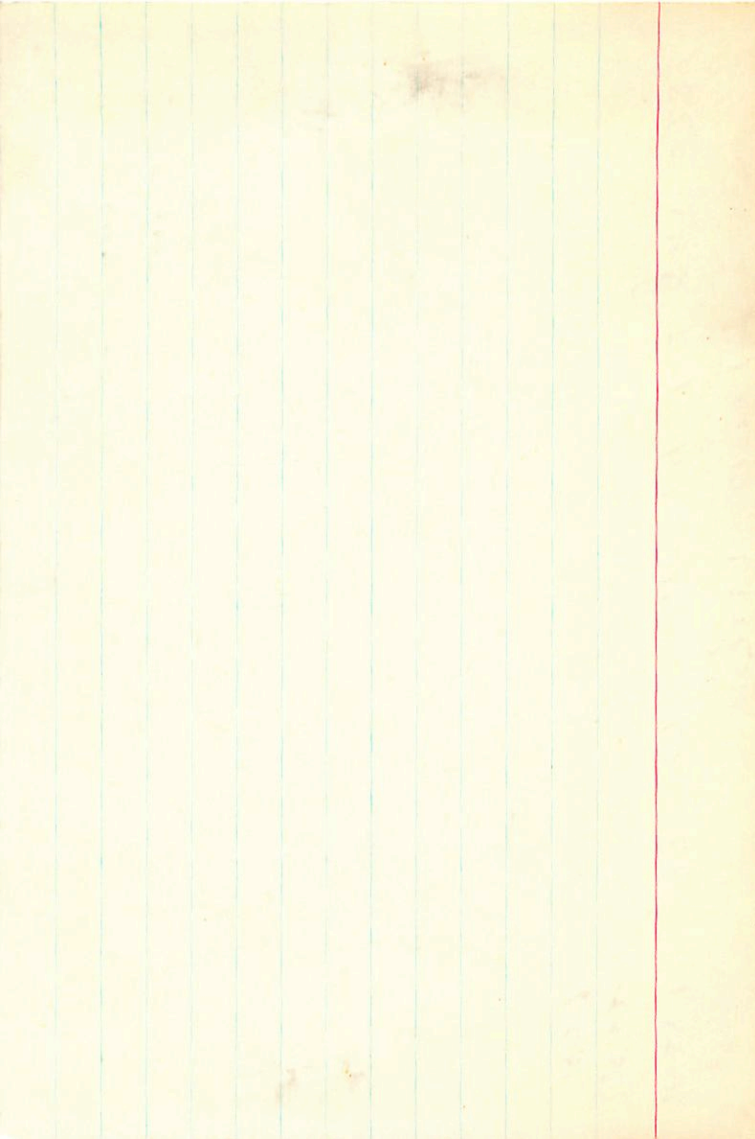
$\frac{67.68}{33.8}$

+12

33.8

$\frac{47.29}{1.86}$

37.5



-0087 ± 3.0  
-0050

-002 ± 2.4  
-006

114357 13 07.3 737 41 6.1 9.124 -18.86

17826

7829 20.483 1898.9 737 41 20.35 1895.2

W350  
445  
928

10915 ✓ +10727

10621 +10977

10624 +10149  
1076 1076  
0.24 0.24

1103  
1076  
0.24  
1076  
0.24  
1076  
0.24  
1076  
0.24

997-9796  
-074 2688

27.9

11  
20.46

20.3 1926.1  
-38

19.92  
19.38

20.30  
-10  
20.10

20.7 1930.2

20.4  
-24  
20.

20.48  
-19.97  
20.515

20.7393  
6.94  
1.669

1136  
9440  
20.7600  
19.6000  
1.1600

$b_m = 4.11$

4963

13 07.4 - 05 16

-42.068

-2.98

**Q Vic**

AP59901

114330

17528

7530

9 m 7 11

9H

-0023 - 038 N 30

-0024 ± 0.76 → 7170

-0024 ± 0.7

4.38 - 0.01

A 1 E

-034 - 039 G C

-034 - 038 N

-034 - 035 F

-035 - 037

~~-290 -957 -092 556 -035 -037 -2.9 005 0 -175~~

-010 001 033 -005 -024 161 -2.8 +3 +1 020

+2 +9 -9  
+4 -9 -7

31.2459 18 07.5 +30 52 2288 ③ 121 18

1065 +93 207 -2  
-78  
-2

8.65  
-25.8

48



13.100	:	R.A.
30.900	:	DEC.
-78.000	:	PM. R.A.
-2.000	:	PM. DEC.
8.850	:	DISTANCE
237	:	MODULUS
-38.800	:	RAD. VEL.

-0.818	:	d1 (U)
0.875	:	d2 (U)
-0.019	:	d3 (U)
353.987	:	q1
138.991	:	U

0.273	:	d1 (V)
0.819	:	d2 (V)
0.087	:	d3 (V)
-189.114	:	q1
-104.059	:	V

-0.000	:	d1 (W)
-0.000	:	d2 (W)
0.999	:	d3 (W)
31.438	:	q1
-17.173	:	W

*Handwritten signature*

R.A. : 13.100  
DEC. : 30.900  
PM. R.A. : -78.000  
PM. DEC. : -2.000  
DISTANCE : 8.650  
MODULUS : 537  
RAD. VEL. : -28.800

q1 (U) : -0.818  
q2 (U) : 0.575  
q3 (U) : -0.019  
dU : 253.987  
U : 136.961

q1 (V) : 0.572  
q2 (V) : 0.816  
q3 (V) : 0.087  
dV : -189.114  
V : -104.059

*48*  
q1 (W) : -0.066  
q2 (W) : -0.060  
q3 (W) : 0.996  
dW : 21.438  
W : -17.173

81.2460

13 07.7 +30 59

+15.2 ①

-204 +12

10.15+13

5.0

299

- 2027 25p

114447 13078 435 46 F0 0 E

1766m

HR4971

6.04

-073 +035



-073 +035 FC  
-072 +035 W  
-074 +035 P  
-073 +037

60.3 m.

+0843 W<sub>50</sub>

+00641

+00644

811 576 057  
574 793 203  
-071 -199 977

-2806 +1037  
-1986 +1428  
+0241

-1764

AD. VEL.	180.000
MODULUS	12.500.000
DISTANCE	19.000.000
PM. R.A.	31.000
R.A.	13.100
AD. VEL.	180.000
MODULUS	12.500.000
DISTANCE	19.000.000
PM. R.A.	31.000
R.A.	13.100
AD. VEL.	180.000
MODULUS	12.500.000
DISTANCE	19.000.000
PM. R.A.	31.000
R.A.	13.100
AD. VEL.	180.000
MODULUS	12.500.000
DISTANCE	19.000.000
PM. R.A.	31.000
R.A.	13.100

-292-956 627 779 -023 1037 0 023 0 137  
-021 0 070 0 -094 332 0 00  
-12 +42 +17

-0054 ±12.2  
-0043  
08.3 +13

7.3 g 112 -18.36

A058810  
114493  
17844

7837 16.348 1905.7 +13 34 21.57 1903.5

239  
587

18.446

19  
465

454  
-133

31.2

-649-2

±90

-0046 -002  
0 + 25  
+0005

-070  
-068+005  
6.7

18.427  
+17  
444

7.11 +114 +0.98②  
663+0.40 ①

625  
57

13082 +13 2

~~2.66~~  
~~2220.91~~

20.18 1933.6  
-10  
20.08

20.04 1940.2

19.51  
-13  
73.8  
36.9  
33.4

1

50





22

114493.000\*

13.000\*

8.300\*

13.000\*

34.000\*

-0.068\*

0.005\*

6.700\*

218.776

-18.300

0.275

-0.198

63.893

-0.166

-0.155

-33.563

0.030

0.968

-11.204



114371

17896

45  
13.20  
27.28  
40

13

08.4 -69 411

+7.3 ± 2.0  $\Delta m = 0$

+0089 ± 63

-006 ± 61

22.748

96.0

+0043

-012

35.53

85.0

-481  
317

+0053

-010

33  
35.20

39.516

(2241)

38.86

27.0

42.502

08

22018  
412

38.94

+59

.430  
22  
452

35.35

35.23

.58

22674

4228

35.43

27

25

702

68

-2024 25p

114447 13028 438 46 FO 0 0

1766m

6.04

H24971

-073 +035

60.31p.

+0843 W3 SD

-00641 +0843  
-00649 +0844

811 576 057  
574 793 203  
-071 -189 979

-2806 +1037  
-1984 +1428  
+0246 -0358

-1764 -10.7  
-0558 -3.4  
-0112 -0.7

-073 +035 FC  
-072 +038 W  
-074 +035 F  
-073 +037

-0059

0813

-074 +044

-242-956 627 779 -023 1037 0 023 0 137  
-021 0 0700 -054 332 0 00  
-12 +42 +17

RAD. VEL. : 15.200  
 MODULUS : 100  
 DISTANCE : 5.000  
 PM. DEC. : 75.000  
 PM. R.A. : -238.000  
 DEC. : 31.000  
 R.A. : 13.100

U : 30.400  
 UB : 287.100  
 p1 (U) : -0.818  
 p2 (U) : 0.275  
 p3 (U) : -0.818

V : -28.100  
 VB : -274.485  
 p1 (V) : 0.275  
 p2 (V) : 0.818  
 p3 (V) : 0.088

W : 19.400  
 WB : 45.015  
 p1 (W) : -0.000  
 p2 (W) : -0.000  
 p3 (W) : 0.000

*M*

R.A. : 13.100  
DEC. : 31.000  
PM. R.A. : -238.000  
PM. DEC. : 72.000  
DISTANCE : 5.000  
MODULUS : 100  
RAD. VEL. : 15.200

q1 (U) : -0.818  
q2 (U) : 0.575  
q3 (U) : -0.018  
dU : 987.108  
U : 98.430

q1 (V) : 0.572  
q2 (V) : 0.816  
q3 (V) : 0.088  
dV : -274.485  
V : -26.108

49  
q1 (W) : -0.066  
q2 (W) : -0.062  
q3 (W) : 0.996  
dW : 42.617  
W : 19.400